

**Aviation Safety Investigation Report  
199102551**

**de Havilland DH82-A**

**29 August 1991**

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**NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at [www.atsb.gov.au](http://www.atsb.gov.au).**

**Occurrence Number:** 199102551  
**Location:** Cairns Qld  
**Date:** 29 August 1991  
**Highest Injury Level:** Serious  
**Injuries:**

**Occurrence Type:** Accident

**Time:** 1334 hours

|              | Fatal    | Serious  | Minor    | None     |
|--------------|----------|----------|----------|----------|
| Crew         | 0        | 2        | 0        | 0        |
| Ground       | 0        | 0        | 0        | -        |
| Passenger    | 0        | 0        | 0        | 0        |
| <b>Total</b> | <b>0</b> | <b>2</b> | <b>0</b> | <b>0</b> |

**Aircraft Details:** de Havilland DH82-A  
**Registration:** VH-CES  
**Serial Number:** 1077  
**Operation Type:** Aerial work  
**Damage Level:** Substantial  
**Departure Point:** Cairns Qld  
**Departure Time:** 1333 hours  
**Destination:** Cairns Qld

**Approved for Release:** 28th April 1992

#### **Circumstances:**

The pilot under check advised the tower controller that the pilot in command wished to demonstrate an engine failure after takeoff from runway 33 and that they would land on runway 15. The controller gave approval for this sequence and issued a take-off clearance. Four minutes earlier, a Dash 8 aircraft had been cleared for takeoff (this aircraft was making an intersection DEPARTURE) from the same runway. VH-CES was observed to turn back towards the runway and descend normally, but contacted the ground adjacent to the runway right wing low and sideslipping to the right. The landing gear collapsed and the aircraft came to rest facing north-east. Wind at the time was from 030° at 5-10 kts. The pilot reported that the aircraft had experienced a bump similar to that when encountering wake turbulence. The bump was encountered shortly after the aircraft commenced the turn back to the runway, and after the throttle was closed. The aircraft then experienced windshear and downdraft to the extent that the rate of descent could not be arrested before ground impact. VH-CES took off some 2-3 min after the Dash 8. Because the Dash 8 weighs less than 25,000 kg, no wake separation standard was required to be applied by the aerodrome controller. The wake produced by the Dash 8 right wing would, in nil wind conditions, travel away from the runway at about 5 kts. Under the crosswind conditions prevailing at the time, however, the wake could have remained in the vicinity of the runway. This, along with the significant weight difference between the two aircraft, could have led to the flight path of VH-CES being adversely affected.

#### **Significant Factors:**

The following factors were considered relevant to the development of the accident

1. Crosswind conditions prevailed.
2. Wake turbulence was generated by a departing aircraft.

3. The aircraft was probably affected by wake turbulence during approach.